

## **Appendix E**

### **Sensitive Wildlife Species Expected to Occur Within the Coal Oil Point Reserve, Open Space Management Area, and Santa Barbara Channel**



**Table E-1**  
**Sensitive Biological Species**

<b>Common Name</b> <b>Scientific Name</b>	<b>Status<sup>1</sup></b> <b>Fed/State</b>	<b>Occurrence</b>
<b>Invertebrates</b>		
San Diego fairy shrimp <i>Branchinecta sandiegonensis</i>	E/-	One individual of this species was collected from a vernal pool in Isla Vista in the early 1990's but the species has not been observed since despite sampling. This observation has been questioned because the species is unlikely to occur so far north of the known geographic range. No vernal pool habitat exists in project area.
Vernal pool fairy shrimp <i>Branchinecta lynchi</i>	T/-	Species found in man-made depressions along the north side of Union Pacific Railroad tracks, about 5 miles west of the project area. Not found to date in Isla Vista vernal pools. No vernal pool habitat exists in project area.
Globose dune beetle <i>Coelus globosus</i>	SC/-	This species is known to occur within the foredune habitat in the Coal Oil Point Reserve (COPR) in the vicinity of the Venoco lease and in foredunes between the mouths of Tecolote and Bell Canyon creeks.
Sandy beach tiger beetle <i>Cicindela hirticollis gravida</i>	SC/-	This beetle has been found along the sandy beach in front of the mouth of Devereux Slough in the vicinity of the Venoco lease. The larvae burrow along wet margin of estuary. Adults feed on flies near the slough mouth.
Monarch butterfly <i>Danaus plexippus</i>	-/CSC	Overwintering aggregations occur in eucalyptus woodland in the Open Space Area in the project vicinity
White Abalone <i>Haliotis sorenseni</i>	E/-	A predominately deep-water species found between 80 and 200 feet on rocky reefs from Point Conception in California to Punta Abreojos in Baja California, Mexico.
<b>Fish</b>		
Tidewater goby <i>Eucylogobius newberryi</i>	E/CSC	Formerly occurred in Devereux Slough; suitable habitat still exists there; could re-colonize naturally from existing populations in Tecolote and Bell Canyon creeks west of the project area.
<b>Amphibians</b>		
Red-legged frog <i>Rana aurora draytonii</i>	T/CSC	Nearest known localities are about 0.5 miles northwest of the project area in the main stem of Devereux Creek between Union Pacific Railroad tracks and Highway 101; breeding populations occur in Tecolote and Bell Canyon creeks south of UPRR tracks about 0.7-1.0 miles west of the project area.
<b>Reptiles</b>		
Southwestern pond turtle <i>Clemmys marmorata pallida</i>	-/CSC	Historically known from Devereux Slough and tributaries of Devereux Creek north of Highway 101. No suitable aquatic habitat occurs in Devereux Creek in the Open Space Area except in association with the Ocean Meadows Golf Course and the freshwater pond in the COPR Expansion Area in the project vicinity.
California horned lizard <i>Phrynosoma coronatum frontale</i>	-/CSC	Undocumented sightings from sand dunes around Campus Point and COPR. Low potential for occurrence in dunes west of mouth of Devereux Slough in COPR.
California legless lizard <i>Anniella pulchra pulchra</i>	-/CSC	Suitable habitat exists in dunes west of mouth of Devereux Slough in COPR in the project vicinity.

Two-striped garter snake <i>Thamnophis hammondi</i>	-/CSC	Observed in several small streams and wetlands in the western Goleta area (UCSB and SBMNH museum records). Suitable habitat may exist in permanently wetted reaches of Devereux Creek and its tributaries in the Open Space Area and near Devereux Slough.
Loggerhead sea turtle <i>Caretta caretta</i>	T/-	Occasional visitor to SB Channel. Found along shallow areas of continental shelf and coastal bays. Incidence within SB Channel increases during El Niño events.
Green sea turtle <i>Chelonia mydas</i>	T/-	Occasional visitor to SB Channel, particularly during El Niño events. Herbivore found in nearshore environments and coastal bays. Maintains breeding grounds off Pacific coast of Mexico.
Leatherback sea turtle <i>Dermochelys coriacea</i>	E/-	Primarily pelagic species that migrates between breeding grounds in Southwest Pacific Ocean and feeding grounds off central and northern California.
Olive Ridley sea turtle <i>Lepidochelys olivacea</i>	T/-	Occasional visitor to SB Channel. Found along shallow areas of continental shelf and coastal bays. Incidence within SB Channel increases during El Niño events. Maintains breeding grounds off Mexico.
<b>Birds</b>		
Brown pelican <i>Pelecanus occidentalis californicus</i>	E/E	Common mid-summer to spring immediately off-shore and occasionally on beach in the project vicinity. Breeds on Channel Islands.
Light-footed clapper rail <i>Rallus longirostris levipes</i>	E/E,FP	Suitable habitat is present in the salt marsh vegetation around Devereux Slough. Formerly occurred in Devereux Slough in the 1940s.
California least tern (nesting) <i>Sterna antillarum browni</i>	E/E,FP	Former breeder, now mid-summer and fall visitor at mouth of Devereux Slough and occasionally in interior slough mud flats. Unlikely to nest at these locations.
Western snowy plover <i>Charadrius alexandrinus nivosus</i>	T/CSC	The beach around mouth of Devereux Slough and Coal Oil Point supports one of the largest breeding populations of this species.
Cooper's hawk <i>Accipiter cooperi</i>	-/CSC	Relatively common resident in woodlands along South Coast of Santa Barbara County. A few pairs breed locally, including near the Venoco Lease. Likely to forage in grasslands and woodlands in development footprint and surrounding eucalyptus woodlands.
Northern harrier <i>Circus cyaneus</i>	-/CSC	Regular fall, winter, and spring transient to grasslands and open scrub habitats along South Coast of Santa Barbara County. Likely to forage in grasslands in development footprint and Open Space Area.
White-tailed kite <i>Elanus leucurus</i>	SC/FP	Commonly forages in grasslands in the Open Space Area in the project vicinity. Known to nest in eucalyptus woodland around the Venoco Lease.
Burrowing owl <i>Athene cunicularia</i>	SC/PT	Formerly a common wintering and breeding species along the coast, now a rare fall and early winter visitor. Observed wintering in open grasslands on University lands north of COPR in 2001. Suitable foraging and roosting habitat exists in open grasslands and the Open Space Area in the project area.
Loggerhead shrike <i>Lanius ludovicianus</i>	SC/CSC	Regularly observed resident of project area; known to nest in Open Space Area.

California thrasher <i>Toxostoma redivivum</i>	SC/-	Observed in dune scrub and coastal sage scrub southwest and west of Devereux Slough in COPR in late 1980s and early 1990s, but now uncommon. May occasionally forage in coyote bush and other scrub habitats in the Open Space Area, but suitable scrub habitats are relatively small and highly fragmented to be suitable for nesting.
Coast horned lark <i>Eremophila alpestris actia</i>	-/CSC	Occurs commonly in grasslands throughout project area in late fall through late winter.
Belding's savannah sparrow <i>Passerculus sandwichensis beldingi</i>	-/E	Known to breed in Devereux Slough salt marsh habitats. Habitat requirements are restrictive and species is unlikely to occur away from suitable habitat.
Tricolored backbird <i>Agelaius tricolor</i>	SC/CSC	Uncommon and local breeder in Santa Barbara County. Unlikely to nest but possibly could forage in small patches of freshwater marsh habitat present in Devereux Creek and Open Space Area and in mixed flocks with other Brewer's blackbird and red-winged blackbird in grasslands near such habitats.
<b>Mammals</b>		
Pallid bat <i>Antrozous pallidus</i>	-/CSC	Grasslands and open scrub habitats in the Open Space Area provide excellent foraging habitat and possibly roosting habitat for this species. There are suitable offsite roosts that are within flight distance of the project area. Moderate to high potential for occurrence in project area.
Yuma myotis <i>Myotis yumanensis</i>	SC/CSC	May forage along Devereux Creek, Devereux Slough, and other wetland habitats in the project area.
Townsend's big-eared bat <i>Corynorhinus townsendii</i>	SC/CSC	Widespread in Santa Barbara County, including along the coast, but roosts have only been found at Vandenberg AFB and in the Santa Ynez Valley within or adjacent to riparian habitats. May use the project area as foraging habitat from off-site roosts located along the south slope of the Santa Ynez Mountains. Low potential for occurring in the project area.
Badger <i>Taxidea taxus</i>	-/CSC	Diggings and foraging sign observed in grasslands in the Open Space Area and on University lands to the east in the late 1980s. Current status in project area unknown, but probably low potential for occurring there because of increasing isolation of the site from other open space areas.
Blue whale <i>Balaenoptera musculus</i>	E/-	Migrates through the SB Channel and along the California coast.
Fin whale <i>Balaenoptera physalus</i>	E/-	Migrant and year-round resident of the SB Channel.
Sei whale <i>Balaenoptera borealis</i>	E/-	Rare migrant to area. Open water species, generally seen far offshore.
Humpback whale <i>Megaptera novaeangliae</i>	E/-	Passes through the SB Channel and along the California coast twice each year on its annual migration to and from calving grounds off Mexico. Stays fairly close to shore, with many found over continental shelf waters, particularly during northern migration.
Northern right whale <i>Balaena glacialis</i>	E/-	Rare visitor to the area. Only five sightings have occurred in southern California since 1955.
Sperm whale <i>Physeter macrocephalus</i>	E/-	Rare visitor to the area.
Northern elephant seal <i>Mirounga angustirostris</i>	-/FP	Maintains breeding colony and haul-outs on San Miguel Island.

Northern (Stellar) sea lion <i>Eumetopias jubatus</i>	T/FP	Formerly maintained a breeding colony on San Miguel Island. Have not been seen in Channel Islands and SB Channel since 1983, although potential for occurrence remains.
Southern (Guadalupe) fur seal <i>Arctocephalus townsendi</i>	T/FP-T	Occasional visitor to area. Formerly bred on San Miguel Island. Potential for occurrence and re-establishment of breeding colonies on Channel Islands exists.
Southern sea otter <i>Enhydra lutris nereis</i>	T/FP	Year-round resident of SB Channel. Remain close to shore. Feed primarily on invertebrates such as abalone and urchins.

Source: URS 2004; CDFG, 2004c, 2005; Coon, Ferren, and Gaines 1997; Bonnell and Dailey 1993.

<sup>1</sup> Definitions:

**Federal**

- E = Listed as endangered under the federal Endangered Species Act
- T = Listed or proposed for federal listing as threatened under the federal Endangered Species Act
- SC = Species which information indicates may warrant listing but for which substantial biological information to support a proposed rule is lacking

**State**

- E = Listed as endangered under the California Endangered Species Act
- CSC = Species of special concern in California
- PT = Proposed for listing as threatened in California under the California Endangered Species Act
- FP = Fully Protected under the California Endangered Species Act
- \* = Locally protected species

**Table E-2**  
**Ranking of Commercial Fish Landings at Santa Barbara, Port Hueneme,**  
**Ventura, and Oxnard**

Santa Barbara		Port Hueneme		Ventura		Oxnard	
Weight (tons)	Value (\$M)	Weight (tons)	Value (\$M)	Weight (tons)	Value (\$M)	Weight (tons)	Value (\$M)
Urchin (7,732.6)	Urchin (13.28)	Squid (81,312.6)	Squid (20.70)	Squid (27,599.1)	Squid (6.84)	Urchin (1,117.5)	Urchin (2.08)
Squid (3435.5)	Lobster (5.49)	Sardine (20,263.9)	Sardine (1.84)	Shrimp (384.0)	Halibut (2.03)	Anchovy (182.9)	Shrimp (1.55)
Shrimp (1,877.3)	Shrimp (5.22)	Anchovy (11,796.7)	Anchovy (1.48)	Halibut (331.7)	Shrimp (1.54)	Shrimp (182.3)	Lobster (1.20)
Crab (1489.3)	Crab (3.59)	Mackerel (2881.4)	Shrimp (0.34)	Crab (219.1)	Crab (0.55)	Halibut (181.8)	Halibut (1.14)
Sea cucumber (602.1)	Halibut (1.66)	Bonito (169.5)	Halibut (0.32)	Shark (166.4)	Seabass (0.37)	Sea cucumber (170.7)	Crab (0.44)
Lobster (383.9)	Squid (0.79)	Shrimp (44.1)	Mackerel (0.21)	Sardine (101.7)	Shark (0.31)	Crab (169.5)	Rockfish (0.32)
Halibut (276.3)	Sea cucumber (0.74)	Tuna (41.1)	Bonito (0.07)	Seabass (96.6)	Lobster (0.27)	Rockfish (100.0)	Sea cucumber (0.28)
Shark (197.5)	Rockfish (0.67)	Halibut (39.8)	Flatfish (0.00)	Sea cucumber (79.2)	Sea cucumber (0.12)	Lobster (87.2)	Sheephead (0.23)
Seabass (132.7)	Abalone (0.53)	Flatfish (4.5)	Sheephead (0.00)	Croaker (68.8)	Croaker (0.08)	Sardine (85.5)	Shark (0.11)
Rockfish (78.3)	Shark (0.46)	Croaker (4.1)	Crab (0.00)	Bonito (65.7)	Rockfish (0.07)	Shark (60.3)	Seabass (0.10)
Other Fish (70.6)	Seabass (0.46)	Shark (1.7)	Lobster (0.00)	Urchin (32.2)	Other Fish (0.06)	Sheephead (36.5)	Other Fish (0.08)
Shellfish (53.1)	Cabazon (0.41)	Crab (1.1)	Rockfish (0.00)	Rockfish (25.9)	Urchin (0.06)	Seabass (22.4)	Anchovy (0.06)
Sheephead (49.3)	Other Fish (0.27)	Sheephead (0.8)	Croaker (0.00)	Flatfish (25.0)	Flatfish (0.04)	Other Fish (22.3)	Cabazon (0.04)
Cabazon (43.6)	Sheephead (0.26)	Other Fish (0.6)	Shark (0.00)	Other Fish (21.7)	Sheephead (0.04)	Flatfish (7.8)	Flatfish (0.02)
Abalone (32.0)	Shellfish (0.05)	Rockfish (0.4)	Other Fish (0.00)	Barracuda (20.8)	Bonito (0.03)	Squid (4.1)	Sardine (0.01)
Flatfish (19.7)	Flatfish (0.03)	Urchin (0.4)	Shellfish (0.00)	Lobster (18.7)	Barracuda (0.02)	Cabazon (4.0)	Squid (0.00)
Tuna (8.5)	Tuna (0.02)	Lobster (0.2)	Urchin (0.00)	Shellfish (10.8)	Sardine (0.01)	Shellfish (2.9)	Barracuda (0.00)
Barracuda (5.3)	Barracuda (0.01)	Shellfish (0.0)	Tuna (0.00)	Sheephead (9.9)	Shellfish (0.01)	Barracuda (1.7)	Shellfish (0.00)

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Santa Barbara		Port Hueneme		Ventura		Oxnard	
Weight (tons)	Value (\$M)	Weight (tons)	Value (\$M)	Weight (tons)	Value (\$M)	Weight (tons)	Value (\$M)
Anchovy (3.3)	Bonito (0.00)	Abalone (0.0)	Abalone (0.00)	Mackerel (3.9)	Abalone (0.01)	Croaker (0.9)	Tuna (0.00)
Bonito (1.7)	Croaker (0.00)	Barracuda (0.0)	Barracuda (0.00)	Tuna (3.2)	Tuna (0.01)	Tuna (0.9)	Croaker (0.00)
Croaker (1.2)	Anchovy (0.00)	Cabazon (0.0)	Cabazon (0.00)	Anchovy (2.8)	Cabazon (0.01)	Mackerel (0.4)	Bonito (0.00)
Mackerel (0.4)	Mackerel (0.00)	Sea cucumber (0.0)	Sea cucumber (0.00)	Cabazon (0.8)	Mackerel (0.00)	Bonito (0.2)	Mackerel (0.00)
Sardine (0.1)	Sardine (0.00)	Seabass (0.0)	Seabass (0.00)	Abalone (0.4)	Anchovy (0.00)	Abalone (0.0)	Abalone (0.00)
<b>Total (16,494.6)</b>	<b>Total (33.94)</b>	<b>Total (116,563.0)</b>	<b>Total (24.97)</b>	<b>Total (29,288.4)</b>	<b>Total (12.49)</b>	<b>Total (2,441.6)</b>	<b>Total (7.66)</b>

Note: 1 ton = 0.9 metric ton.

Source: CDFG 2004a.



**Table E-3**  
**Ranking of Fish Commercially Harvested in the SB Channel from 1997 to 2003**

Total Pounds (Tons)			Dollar Value (M)		
Taxon	Weight	Percent	Taxon	\$ Value	Percent
Squid	137,779	70.46%	Squid	34.95	39.83%
Sardine	23,988	12.27%	Urchin	15.51	17.67%
Anchovy	12,060	6.17%	Shrimp	8.99	10.24%
Urchin	8,931	4.57%	Lobster	6.97	7.94%
Mackerel	3,264	1.67%	Halibut	5.16	5.87%
Shrimp	2,528	1.29%	Crab	4.65	5.30%
Crab	1,907	0.98%	Sardine	2.17	2.47%
Bonito	907	0.46%	Anchovy	1.55	1.77%
Sea cucumber	855	0.44%	Rockfish	1.18	1.34%
Halibut	831	0.42%	Sea cucumber	1.14	1.30%
Lobster	491	0.25%	Seabass	1.00	1.14%
Shark	441	0.23%	Shark	0.92	1.05%
Tuna	413	0.21%	Sheephead	0.56	0.63%
Seabass	270	0.14%	Other Fish	0.55	0.63%
Rockfish	255	0.13%	Abalone	0.54	0.62%
Other Fish	157	0.08%	Cabazon	0.49	0.55%
Sheephead	99	0.05%	Tuna	0.48	0.55%
Other Flatfish	85	0.04%	Bonito	0.38	0.43%
Croaker	76	0.04%	Mackerel	0.24	0.27%
Other Shellfish	67	0.03%	Other Flatfish	0.13	0.15%
Cabazon	52	0.03%	Croaker	0.08	0.10%
Barracuda	50	0.03%	Other Shellfish	0.06	0.07%
Abalone	32	0.02%	Barracuda	0.06	0.07%

Note: Based on combined landings at Santa Barbara, Oxnard, Ventura, Port Hueneme, San Pedro, Morro Bay, and Terminal Island. 1 ton = 0.9 metric ton.

Source: CDFG 2004a.

**Table E-4**  
**A Summary of the Oiled Birds from the Torch Pipeline Spill**

Species	Dead	Live-Died	Live-Released	Total
Red-Throated Loon	1	1	0	2
Pacific Loon	1	0	0	1
Common Loon	0	1	0	1
Eared Grebe	0	1	2	3
Western Grebe	6	5	0	11
Brandt's Cormorant	34	1	1	36
Common Murre	28	21	0	49
Rhinoceros Auklet	1	0	0	1
Pigeon Guillemot	1	0	0	1
American Coot	1	0	0	1
Sooty Shearwater	2	0	0	2
Black-Vented Shearwater	1	0	0	1
Brown Pelican	0	0	2	2
Western Gull	3	0	7	10
Heermann's Gull	2	0	2	4
California Gull	1	0	2	3
Ring-Billed Gull	1	0	0	1
Elegant Tern	0	1	0	1
Northern Phalarope	1	1	0	2
Sanderling	1	0	2	3
Unknown	5	0	0	5
Total	90	32	18	140

Source: Ford Consulting 1998.